

6 determining, at the remote device, if the transport header of said message  
7 identifies the message as a remote Direct Memory Access (rDMA) read operation;  
8 and  
9 if the transport header of said message identifies the message as said remote  
10 Direct Memory Access (rDMA) read operation, then performing a remote Direct  
11 Memory Access (rDMA) write operation at the local device in accordance with data  
12 elements included in said message.

1 2. (Amended) The method as claimed in claim 1, wherein the data  
2 elements in said rDMA read message identify a set of source buffers in the remote  
3 device which reference the remote memory and a set of destination buffers in the  
4 local device that reference the local memory.

1 3. (Amended) The method as claimed in claim 2, wherein the source  
2 buffers and destination buffers are registered with a Virtual Interface (VI) network  
3 interface controller of the remote device and the local device, respectively.

1 4. (Amended) The method as claimed in claim 3, wherein the data  
2 elements of the rDMA read message specify the source buffers and destination  
3 buffers as multiple data segments with offsets and designate a channel of the Virtual  
4 Interface (VI) as a data path for the rDMA write operation.

1           5. (Amended)           The method as claimed in claim 4, wherein one data  
2   element of the rDMA read message specifies a last data segment and completion of  
3   the rDMA read request.

1           6. (Amended)           The method as claimed in claim 5, wherein the data is  
2   read from the remote memory of the remote device directly into the local memory of  
3   the local device over the Virtual Interface (VI), without making an intermediate copy  
4   of the data.

*C/Cont* 1           7. (Amended)           The method as claimed in claim 6, wherein the remote  
2   device builds virtual interface rDMA write descriptors with a sequence inserted into  
3   an immediate data field on a last data segment of each rDMA read request.

1           8. (Amended)           The method as claimed in claim 7, wherein the  
2   completion of the data transfer is processed at the local device, based on the  
3   immediate data that arrives with the last data segment of each rDMA write operation  
4   by the remote device.

1           9. (Amended)           A network device initiating a method to read data in a  
2   remote memory of a remote device directly into a local memory, said network device  
3   having a network interface controller (NIC) configured to perform the following:  
4       receiving a message from the remote device, via a network, said message  
5   including a transport header indicating a message type;

6 processing said message to determine if the transport header of said  
7 message identifies the message as a remote Direct Memory Access (rDMA) read  
8 operation; and

9 if the transport header of said message identifies the message as said remote  
10 Direct Memory Access (rDMA) read operation, then performing a remote Direct  
11 Memory Access (rDMA) write operation in accordance with data elements included in  
12 said message.

1 10. (Amended) The network device as claimed in claim 9, wherein the  
2 data elements of the rDMA read message identify a set of source buffers in the  
3 remote device which reference the remote memory and a set of destination buffers in  
4 the local device that reference the local memory.

1 11. (Amended) The network device as claimed in claim 10, wherein the  
2 source buffers and destination buffers are registered with the network interface  
3 controller (NIC) of the remote device and the network device, respectively.

1 12. (Amended) The network device as claimed in claim 11, wherein the  
2 data elements of the rDMA read message specify the source buffers and destination  
3 buffers as multiple data segments with offsets and designate a channel of a Virtual  
4 Interface (VI) as a data path for the rDMA write operation.

1           13. (Amended)       The network device as claimed in claim 12, wherein one  
2   data element of the rDMA read message specifies a last data segment and  
3   completion of the rDMA read request.

1           14. (Amended)       The network device as claimed in claim 13, wherein the  
2   data is read from the remote memory of the remote device directly into the local  
3   memory of the network device over the Virtual Interface (VI), without making an  
4   intermediate copy of the data.

1           15. (Amended)       The network device as claimed in claim 14, wherein the  
2   remote device builds rDMA write descriptors with a sequence inserted into an  
3   immediate data field on the last data segment of each rDMA read request.

1           16. (Amended)       The network device as claimed in claim 15, wherein the  
2   completion of the data transfer is processed based on the immediate data that  
3   arrives with the last data segment of each rDMA write operation by the remote  
4   device.

1           17. (Amended)       A tangible medium storing a plurality of program  
2   instructions, which, when executed by a processor installed in a network device,  
3   causes the network device to perform the following:  
4       receiving a message from a remote device, via a network, said message  
5   including a transport header indicating a message type;

6 processing said message to determine if the transport header of said  
7 message identifies the message as a remote Direct Memory Access (rDMA) read  
8 operation; and

9 if the transport header of said message identifies that the message is said  
10 remote Direct Memory Access (rDMA) read operation, then performing a remote  
11 Direct Memory Access (rDMA) write operation in accordance with data elements  
12 included in said message.

1 18. (Amended) The tangible medium as claimed in claim 17, wherein the  
2 data elements of the rDMA read message identify a set of source buffers in the  
3 remote device which reference a remote memory and a set of destination buffers in  
4 the network device that reference a local memory.

1 19. (Amended) The tangible medium as claimed in claim 18, wherein the  
2 source buffers and destination buffers are registered with a network interface  
3 controller (NIC) of the remote device and the network device, respectively.

1 20. (Amended) The tangible medium as claimed in claim 19, wherein the  
2 data elements of the rDMA read message specify the source buffers and destination  
3 buffers as multiple data segments with offsets and designate a channel of a Virtual  
4 Interface (VI) as a data path for the rDMA write operation.

1           21. (Amended)     The tangible medium as claimed in claim 20, wherein one  
2     data element of the rDMA read message specifies a last data segment and  
3     completion of the rDMA read request.

1           22. (Amended)     The tangible medium as claimed in claim 21, wherein the  
2     data is read from the remote memory of the remote device directly into the local  
3     memory of the network device over a Virtual Interface (VI), without making an  
4     intermediate copy of the data.

1           23. (Amended)     The tangible medium as claimed in claim 22, wherein the  
2     remote device builds virtual interface rDMA write descriptors with a sequence  
3     inserted into an immediate data field on the last data segment of each rDMA read  
4     request.

1           24. (Amended)     The tangible medium as claimed in claim 7, wherein the  
2     completion of the data transfer is processed based on the immediate data that  
3     arrives with the last data segment of each rDMA write operation by the remote  
4     device.